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**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Docket Number (Optional)

102289-100

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on March 2, 2009

Signature

Typed or printed name Margaret Miron

Application Number

10/722,928

Filed

November 26, 2003

First Named Inventor

Bonnie B. Sandel, et al.

Art Unit

4173

Examiner

Frazier, Barbara S

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the



applicant/inventor.



assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

attorney or agent of record.

Registration number 59,045

attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

Signature

Wanli Wu

Typed or printed name

203-498-4317

Telephone number

March 2, 2009

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

\*Total of 1 forms are submitted.

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## PRE-APPEAL BRIEF REQUEST FOR REVIEW

**Margaret Miron**

**REMARKS**

Claims 1-6, 8-15 and 33 stand finally rejected under 35 USC 103(a) as allegedly being obvious over Laver, U.S. Patent 5,516,472, Dawson-Andoh et al., Abstract from Vinyltec 2003 Conference, and Lyon et al., U.S. Patent 6,042,877. Applicants respectfully traverse the rejection and request reconsideration of these rejections in the following context:

The instantly claimed invention relates to a process for incorporating a metal salt of an antimicrobial onto an outer surface, or into a porous inner portion, of an extruded or molded plastic product. The process includes the steps of extruding or molding a metal-containing plastic-forming composition in an extruded or molded product, and contacting the extruded or molded product with an aqueous solution of a water-soluble biocide in order to cause the water-soluble biocide to react or chelate with at least a portion of the metal on an outer surface, or in a porous inner portion, of the warm extruded or molded product, thereby forming an antimicrobially protected plastic product having a water-insoluble metal salt of a biocide on the surface, and/or in the porous inner portion, thereof.

The outstanding Office Action cited Laver, Dawson-Andoh et al. and Lyon et al. in rejecting the instant claims. Laver discloses an extrusion process for combining an organic fibrous material with a thermoplastic material to form a wood-imitating composite (Abstract). Laver discloses further that the product may contain lubricants such as zinc stearate. The product produced by the process disclosed in Laver is not antimicrobially protected.

Dawson-Andoh et al. discloses that rigid PVC-wood flour composite lumber containing either maple or pine wood flour was colonized and discoloured by fungi. However, Dawson-Andoh et al. does not provide any solution to the problem.

Lyon et al. discloses a two-step methodology for imparting antimicrobial efficacy to a variety of products. The method includes the steps of: (1) coating the article with a solution containing a complex of a chelating polymer and a metal ion and (2) treating the coated article with an antimicrobial solution (Abstract as well as column 3, lines 1 and 2).

The outstanding Office Action asserts that in view of the disclosure of Dawson-Andoh et al, a person skilled in the art would recognize the need to apply a biocide to the extruded product of Lava. Then the Office Action selectively applies only step (2) of Lyon's two-step methodology to the wood composite produced by the Laver et al. process and alleges that the combination produces the instantly claimed invention.

Applicants respectfully submit that the combination as applied by the Office Action is improper because such combination ignores one of the two-steps mandated by Lyon's disclosed methodology, namely, coating the article with a solution containing a chelating polymer and a metal ion. To ignore that step runs counter to the specific teachings of Lyon et al. and is a clear error.

As discussed above, Lyon et al. disclose a two step process to protect an article. Specifically, Lyon et al. discloses that the article is first treated with a solution containing a complex of a metal ion and a chelating polymer, which upon drying, forms a layer of film coated on the surface of the article. (Col. 3, lines 1-4 as well as col. 4, lines 37-39). Lyon et al. discloses further that after the article is dried, it is treated with another solution containing a potentiator. (col. 4, lines 56 and 57). According to Lyon et al., a potentiator refers to an anti-microbial agent capable of bonding to the metal ion; and to maintain sustained antimicrobial activity, it is desirable if the potentiator only partially displace the bonds between the metal ion and the chelating polymer (col. 4, lines 565). Upon reading the disclosure, a person of ordinary skill in the art would readily understand that after the second-step of the two-step process, one or more bonds between the metal ion and the chelating polymer still exist (not completely replaced), while at the same time, a new bond(s) is formed between the metal ion and the potentiator. Accordingly, a "chelating polymer – metal ion – potentiator" complex is formed.

Indeed, Applicants submit that Lyon et al. discloses in the example of a preferred embodiment that not only is a "chelating polymer – metal ion – potentiator" complex formed, but also it is this complex that confers antimicrobial activity to the finished product.

At column 2, lines 26-28 of Lyon et al., patentee states that it provides a method for the application of an antimicrobial complex to a variety of substrates. Lyon et al. states further that this complex is chitosan-based, and in particular a chitosan-metal-pyrithione complex. See

column 2, lines 28-32. According to Lyon et al., chitosan is a preferred chelating polymer. See column 3, lines 6-8. And pyrithiones are suitable potentiators. See column 5, lines 7-8. Therefore, Lyon et al. discloses the formation of a “chelating polymer-metal ion-potentiator” complex.

At column 2, lines 32-37, Lyon et al. discloses that a chitosan-metal-pyrithione complex can be applied to a substrate surface to provide the finished article and the like with antimicrobial properties that will withstand repeated uses of the article even after significant water exposure. Accordingly, Lyon et al. discloses that chitosan-metal-pyrithione complex, i.e., a “chelating polymer-metal ion-potentiator” complex confers antimicrobial activity.

In view of the above-mentioned disclosures, a combination of the relevant teachings of Laver et al. and Lyon et al. at all, would suggest applying the Lyon et al. process as a whole to the composite disclosed by Laver and arrive at a process wherein a metal ion is added to the product after the product is formed in order to facilitate the formation of an antimicrobial complex – “chelating polymer – metal ion – potentiator” complex on the product’s surface. Otherwise, if step (2) of the process disclosed in Lyon et al. is selectively applied to the extruded product disclosed by Lyon, no chelating polymer-metal ion-potentiator complex would form. This would be contrary to the teaching of Lyon et al. that such complex is required to provide a sustaining antimicrobial efficacy. In addition, as discussed in detail above, to ignore one of the two steps mandated by Lyon et al.’s disclosure runs counter to the specific teachings of Lyon et al. Accordingly, Applicant respectfully submit that the combination is improper.

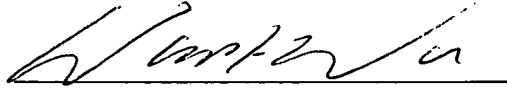
Applicants submit that there is no proper motivation to combine the teachings of cited references while selectively ignoring a specific teaching of one of the references. Moreover, Applicants submit that absent of using impermissible hindsight reasoning with full knowledge of the present invention, even if the teachings of Lyon et al. and Lave were combined, the combined references would not disclose or suggest the instantly claimed invention, but rather one wherein forms an antimicrobial “chelating polymer – metal ion – potentiator” complex on the surface of the article to be treated.

In view of the foregoing, withdrawal of the outstanding rejections and allowing all the claims are respectfully requested.

Please apply any credits or charge any deficiencies to our Deposit Account No. 23-1665.

Respectfully submitted,  
Bonnie B. Sandel et al.

Date: March 2, 2009

A handwritten signature in black ink, appearing to read 'Wanli Wu', is written over a horizontal line.

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